



## **RHODE ISLAND DEPARTMENT OF HEALTH**



*~ Safe and Healthy Lives in Safe and Healthy Communities ~*

Office of Drinking Water Quality

### **Capacity Development Program Report**

*Assisting and Improving Rhode Island's Public Water Systems*

September 2008

## Introduction

The mission of the Rhode Island Department of Health (HEALTH) is “*to prevent disease and to protect and to promote the health and safety of the people of Rhode Island.*” As a result, HEALTH is committed to striving for “*safe and healthy lives in safe and healthy communities*” throughout Rhode Island. An essential aspect of the mission is the effort of the Office of Drinking Water Quality (ODWQ) to ensure the safety of the state’s drinking water. ODWQ coordinates a number of programs that help to ensure every resident of Rhode Island has safe drinking water at home, school, and work. The Capacity Development Program is an important part of this effort.

In accordance with Section 1420 of the Safe Drinking Water Act (SDWA) as amended in 1996, HEALTH has developed and implemented the Capacity Development Strategy since August 2000. The Act also requires that HEALTH submit a report to the Governor and to the public no later than two years after a State develops a Strategy, and every three years thereafter. The report must outline the efficacy of the State’s Capacity Development Strategy and progress toward improving the capacity of public water systems.

Under the 1996 Amendments to the SDWA, Capacity Development is a State effort to help drinking water systems improve their finances, management, infrastructure, and operations so they can provide safe drinking water, reliably and cost-effectively. Capacity Development is an important component of the Act’s focus on assisting the water systems to be pro-active in preventing problems in drinking water.

For purposes of this Strategy, Capacity means that a Public Water System has the Technical, Managerial, and Financial (TMF) capabilities to comply consistently with statutory and regulatory requirements of the Safe Drinking Water Act. Capacity enables the public water system to plan for, achieve, and provide water that is safe to drink today and into the future. The three major components of capacity identified in the 1996 Safe Drinking Water Act Amendments include:

1. **Technical Capacity** refers to a water system’s ability to operate and maintain its infrastructure.
2. **Managerial Capacity** refers to the expertise of the water system’s personnel to administer the system’s overall operations.
3. **Financial Capacity** refers to the financial resources and fiscal management that support the cost of operating the water system.

This report outlines the progress that the Capacity Development activities have made towards improving the TMF capacity of Rhode Island's public water systems and discusses the efficacy of the Capacity Development Strategy. This report is broken down in the following manner:

- I. Description of Rhode's Island's Capacity Development Program
  1. Overview of strategies/goals
  2. Growing pains: challenges
  3. Overview of improvements
- A. Water System Ranking – assistance through prioritizing systems
- B. Contracts
  1. Direct Technical Assistance Contracts
    - a. Assistance with Drinking Water State Revolving Fund application (DWSRF)
    - b. Assistance with Consumer Confidence Reports (CCRs)
    - c. Assistance through a Circuit Rider
    - d. Assistance with Capital Improvement Plan
    - e. Assistance with Operation & Maintenance Manual
  2. Contract for General Training
    - a. Assistance with certifying operators
- C. Operator Certification Program
- D. Outreach to Systems
  1. Mailings to water systems
  2. Web site
- E. Community Outreach
- II. Summary Assessment of the Program
- III. Capacity Development Strategy Revision
- IV. Looking Ahead
  - A. New initiatives/Program improvement
- V. Lessons Learned

## VI. Conclusion

Overall, the public water systems in Rhode Island have been successful in providing safe drinking water and improving their compliance with the Safe Drinking Water Act. However, there is still much work to be done in assisting water systems, especially small water systems, with achieving technical, managerial, and financial (TMF) capacity on a short-term and long-term basis. The ODWQ regulates approximately 480 public water suppliers in Rhode Island. This includes not only the major municipal water systems but also many other facilities such as schools, factories, restaurants, and day care centers that have their own water supplies.

### **Description of Rhode Island's Capacity Development Program**

In Rhode Island, Capacity Development can be seen as the tapestry that weaves together HEALTH's drinking water program activities into a focused effort to assist troubled public water systems and to assist those systems that have maintained compliance with the regulations, as well. The Program assists the water systems in several ways by using the several components of the strategy. The components include:

- Prioritization of need (Water System Ranking)
- Assistance with understanding and getting access to the Drinking Water State Revolving Fund
- Technical assistance in completing the Consumer Confidence Reports
- On-site assistance through a Circuit Rider
- Training and cost reimbursement for operator certification
- Training to improve Managerial capacity
- Training to improve Financial capacity
- Ongoing program evaluation through a self-assessment survey

The Capacity Development activities are focused on preventive measures to assist all water systems instead of enforcement against troubled systems in non-compliance.

The ODWQ has been implementing the Capacity Development strategies and planning future strategies to meet the needs of the water systems more effectively. However, there have been some continuous challenges and barriers along the way. These are:

- Consumer apathy and resistance to change
- Water system owner/operator apathy
- Lack of water system management and long range planning
- Lack of trained/certified water system owner/operators
- Water system mistrust of State involvement
- Bureaucratic procedures impeding assistance to water systems
- Limited staff
- Lack of money

In this report, you will find that the Program has addressed some of the challenges and barriers and continues to look for new ways to resolve the other imminent issues.

Since the Capacity Development strategies have been underway, there has been improvement in the technical capacity of water systems against the baseline criteria. In the past several years, strategies to improve managerial and financial capacity have been underway, as well. The overall impact of the latter strategies is still being evaluated. However, indications of improvement against the baseline can be summarized as follows:

- The annual prioritization of need for assistance shows that several existing systems this year have improved capacity.
- Capacity Development Program components are successful as measured through improved compliance with the Consumer Confidence Reports (CCRs), successful Operator Certification, and increased numbers of DWSRF applications & Project Priority Listings.
- Systems approved for DWSRF for infrastructure improvements loans.
- Additional training courses for systems have been implemented to improve the number of operators being trained and certified.
- Public Water System assessment survey results used to determine system needs.

A Capacity Development Coordinator assures an integrated effort with all aspects of the drinking water program; enhancing communication with water systems and the public; managing contracts for direct technical assistance; managing contracts for general training; and utilizing the water system ranking to target assistance efforts.

A description of each component of the Capacity Development Program follows:

## Water System Ranking

### Prioritization of need

An annual water system ranking is used to prioritize systems for capacity assistance. The following describes the ranking method that assigns systems to one of four priority levels:

**Level One Systems** are systems with sufficient capacity, assistance is not recommended. These systems are monitored to ensure continued compliance with regulations.

**Level Two Systems** are water systems that are presently in compliance, but would benefit from Capacity Development assistance.

**Level Three Systems** are water systems that are not presently in compliance, but can be brought into compliance via Capacity assistance.

**Level Four Systems** are systems not in compliance that cannot be brought into compliance through Capacity assistance. Enforcement action is required.

The ranking process focuses on the small systems serving a population under 10,000 that could most benefit from Capacity Development strategies and includes a staff assessment of all the public water systems resulting in assignment of each system to a priority level using the criteria discussed below.

The ranking system does not rate systems from best to worst, but rather identify systems that would benefit most from the capacity development tools we have to offer. Level 3 systems the highest priority. Level 2 systems that can be advanced to Level 1 with technical or financial assistance were the next highest priority. The prioritization is based on a staff evaluation of the following criteria:

- Compliance data (Significant Non Compliance list, Sanitary Survey results, Monitoring response, Compliance officer, and staff knowledge)

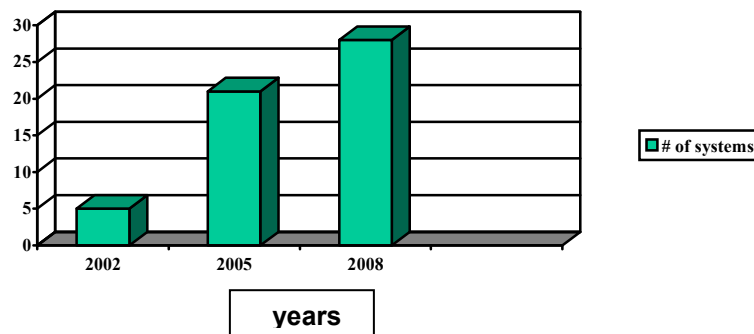
- DWSRF data (Application materials, project priority list, disadvantage community status, Intended Use Plan)
- Public Water System data (Consumer Confidence Report (CCR), Source Water Assessment Operator Certification status, consumer complaints)
- Annual license renewal data

The ODWQ has found that targeting systems most in need is an important method of maximizing our efforts. Most water systems are assigned to Level 2 and Level 3. There are no Level 4 systems at present and a number of water systems were assigned to Level 1. The issues facing the Level 2 and 3 systems are being assessed and there will be ongoing assistance to these systems using the Capacity Development strategies. On average, there are forty systems per year identified as needing assistance.

- Several existing systems over the past several years have improved capacity, thereby progressing from a higher priority level to a lower one. The following systems have not only made improvements but maintained compliance with state and federal regulations.

Oakland Water Association PWSID# 1592019 Paige Associates, Inc. PWSID# 1900020 Glendale Water Association PWSID# 1583825 The Village On Chopmist Hill PWSID# 2943224 In The Middle Of Nowhere Diner PWSID# 2980064
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Numbers Of Water Systems That Improved  
2002 - 2008



The graph illustrates the number of systems that have made improvements and achieved compliance by: adopting new by-laws, replacing malfunctioning equipment, installing new storage tanks, and resolving lead/copper issues. The number of systems making improvements increased from five systems in 2002, seven systems in 2003, and 15 systems in 2004 to 21 systems in 2005. In 2008, the number of systems increased to 28. Technical assistance through the Capacity Development Program was the major factor in these improvements. However, due contract delays and staff issues, some of our small systems were not able to receive assistance as in the previous years.

### Contracts

The Office of Drinking Water Quality has several contracts to assist water systems through on-site one on one technical training and general training. These contracts have been successful in assisting water systems to be pro-active in maintaining compliance and preventing non-compliance. Several water systems have made improvements and progress through technical assistance efforts.

#### *Contracts for Direct Technical Assistance*

There are three contracts for direct technical assistance. The efforts include: outreach to encourage use of the Drinking Water State Revolving Fund (DWSRF), preparation of Consumer Confidence Reports (CCRs), a Circuit Rider to troubleshoot targeted water systems, and development of Capital Improvement Plans (CIP) and Operation & Maintenance (O & M) Manuals.

These contracts provide the necessary assistance that system owners/operators need to maintain and improve the overall capacity of their systems. The focus of these efforts is on the water systems serving populations under 3,300, which make up approximately three quarters of the public water systems in Rhode Island. These water systems face many challenges with extremely limited resources, unlike the large systems, that have greater resources such as trained managers and operators, money, and more staff. These contracts have not only helped water systems achieve compliance but they have also prevented non-compliance through improved communication with the water systems and creating opportunities to troubleshoot issues before compliance issues occur.



#### Assistance with understanding and getting access to the Drinking Water State Revolving Fund

The contract, which was awarded to the Atlantic States Rural Water and Wastewater Association (ASRWWA) for outreach to encourage use of the DWSRF has made progress in its efforts. ASRWWA conducted informational meetings around the State to inform water systems of the DWSRF and offered assistance with the application process. They have provided additional assistance to small water systems regarding applying for DWSRF by following-up with systems that have not yet completed the application process. As a result of this effort, 41 individuals from various water systems attended two regional Trustee Trainings For Water Utilities and 24 individuals from various water systems attended the “Managing Your Utility During A Tough Economy” seminar last Spring, which highlighted the DWSRF and pertinent financial advice and information for water systems. The Office of Drinking Water Quality received confirmations from several public water systems of their intent to finance projects this year.

Over the past several years, the systems below have been approved for DWSRF and have financed single or multiple infrastructure improvements. The date(s) in the list indicates when the project was completed.

North Tiverton Fire District	PWSID#1592018	2005 project
East Providence Water Department	PWSID#1615610	2005 project
Woonsocket Water Department	PWSID#1559518	2005 - 2006 project multiple projects
Jamestown Water Department	PWSID#1858419	2006 project
Lincoln Water Commission	PWSID#1858423	2007 project
Newport Water Department	PWSID#1592021	2007 multiple ongoing projects

These projects range in size from \$470,000 to over \$1,000,000 which included distribution system repairs, meter read improvements, and pump station construction. There are several systems in the process of going through the application process.

ASRWWA has developed a DWSRF brochure for distribution to the water systems and they also mail a quarterly newsletter to the water systems with updates and information regarding the DWSRF, which has increased the awareness of the loan program.

#### Technical assistance in completing Consumer Confidence Reports

The contract for assisting small systems with preparing their CCRs is also administered by ASRWWA. ASRWWA, in collaboration with the ODWQ, has successfully written the CCRs each year for

the small community water systems in Rhode Island. They did an extensive follow-up via e-mail, phone, or fax and survey to make sure that the CCRs were distributed properly.

The following summarizes water system assistance with the CCRs:

66-68 small community water systems (per year) received guidance and assistance in producing their CCRs over the past several years.

68 small community water systems received guidance and assistance in producing their CCRs last year.

16 small community water systems (per year) received a CCR violation for not meeting the specified requirements over the past several years.

4 community water systems received a CCR violation for not meeting the specified requirements last year.

The number of systems receiving assistance and the number of systems receiving CCR violations have decreased due to the Program empowering the system owner/operator to organize develop and distribute the CCR to their consumers following the specified requirements.

#### On-site assistance through a Circuit Rider

A Circuit Rider has been collaborating with the internal staff to: target specific systems with lead and copper problems, conduct on-site visits after inspections and/or violations, and focus on the systems that have a history of significant non-compliance, and the very small water systems, i.e. mobile home parks. Each month, the Circuit Rider visits approximately 20-25 water systems. With the Circuit Rider's on-site assistance, sanitary survey deficiencies are resolved in a timely manner, as well as some challenging lead and copper issues. We have found that the Circuit Rider's assistance has enabled systems to improve their capacity as seen through the water system ranking.

The following summarizes the Circuit Rider's activities:

20-25 on-site visits per month:

Approximately 15 visits were for sanitary survey follow-up, in which more than half of the deficiencies are resolved.

Approximately 8-10 visits were for technical assistance with compliance issues, in which half are resolved.

Additionally, ASRWWA and the Office of Drinking Water Quality discussed efforts to assist small systems with the financial and managerial aspects of Capacity Development, as well as more technical

assistance in long range planning. So far, assistance to potential DWSRF borrowers has come in the form of one-on-one consultations with the system owners to develop management reports, budget proposals, new rate structures, short term & long-term capital budgets. This project was recently implemented and has assisted several systems in moving toward completing their DWSRF loan application.

To further assist systems with financial and managerial capacity, the Resources for Communities And People (RCAP) Solutions contracts focused on assisting small systems with: a) Capital Improvement Plan (CIP) preparation – assess and evaluate each system, financial statement preparation for loan and/or grants, prioritize short and long term improvements to the system infrastructure, and construction cost estimate and sinking fund requirements, etc. b) Operation and Maintenance Manual (O &M) preparation – provide hands-on assistance in using the template and to prepare a system specific operation and maintenance manual that includes detailed maintenance schedule, emergency operating procedures, and a contingency plan. To date, the contractor has completed CIP's and O & M manuals for 10 small water systems. Due to staff reduction and changes at RCAP Solutions, there weren't any new systems receiving assistance during this time. However, over the past several months, RCAP has acquired new staff and are able to continue the contract to assist the small systems. Plans are underway to modify the current contract to include: follow-up assessments with the previous 10 small systems; tie-in the Check Up For Small Systems (CUPSS) training; and utilize the (previously developed) CIP and O & M manual to assist the systems in making decisions concerning their financial, managerial, and technical capacity.

#### *Contracts for General Training*

##### Training and cost reimbursement for operator certification

The contract with New England Water Works Association (NEWWA) provides general training classes to prepare water system operators for the operator certification exam. In consultation with the ODWQ, NEWWA has developed and held three classes annually in various locations in Rhode Island that are easily accessible to the water systems. These classes are based on the California State University drinking water operator-training course. They are designed to assist small water system operators in building essential knowledge and key skills and prepare them for the Rhode Island Drinking Water Operators Certification Examination. In addition, throughout the year, NEWWA conducts other courses that focus on the specific needs of the systems in the areas of water system maintenance and operations.

These classes allow operators to maintain their certification through obtaining Continuing Education Units and Training Contact Hours. NEWWA has developed, organized, and advertised these training classes through mass mailing of brochures and phone solicitation. At the end of each training class, the operators are asked to complete a training assessment questionnaire that focuses on the class content, the effectiveness of the instructor's presentation of the materials, and how the training course can be improved. The results of the questionnaire have helped in determining the needs of the operators.

On average, 12-15 operators participated in each course; over 750 hours of training was received; and approximately half of the operators (participating in the exam prep course) have passed the exam since the training started.

The following summarizes the technical training courses that was offered:

Operator Certification Exam Preparation Course The Importance of Metering For Very Small Drinking Water Systems Pumps and Pumping Overview Basic Electricity and Electrical Safety Overview How To Successfully Operate and Maintain A Your Pumping Station An Introduction To Drinking Water Analytical Methods Basic Chemistry Concepts and Applied Water Chemistry Ethics and Drinking Water System Operations Hands on Disinfection with Chlorine Introduction To Cross Connection Control Surveying Water System Hydraulics Overview Hands-on Valve Operations and Maintenance Understanding and Using the Public Notice Rule Water Main Disinfection Creating A Flushing Program To Meet SDWA Requirements Introduction To Drinking Water Microbiology
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### Operator Certification Program

The operator certification requirement improves capacity through the training needed to pass the initial examination and through the continuing education requirements needed for renewal.

Due to the revised operator certification requirements being in effect for over five years, the Program has continued to make strides toward achieving 100% compliance for the smaller water systems. Currently, the state is at a 98% compliance rate with operator certification. With the assistance of the Circuit Riders' on-site visits to the systems, along with the technical assistance courses, there are 425 operators who have been certified and trained to operate their systems in compliance.

In addition, over the 3½ years, the ODWQ has implemented the Operator Certification Expense Reimbursement Program (ERP). The ERP uses the Expense Reimbursement Grant funds to provide free training and testing services for small water system operators for initial certification and renewal. In addition, comprehensive and very low cost ongoing training to operators of community and non-transient non-community water systems serving 3,300 persons or fewer is also provided. There are approximately 147 of these systems. HEALTH’s small water system certification program has addressed the training needs of operators in RI by providing courses free of charge, reimbursement of past and future expenses, and on-site assistance to aid in achieving and maintaining compliance. The ERP efforts combine with the efforts of the Operator Certification Program has ensured that all requirements of the State’s revised Drinking Water Operator Certification regulations are met. The Circuit Rider has played a major role in the Program by distributing training materials and handouts of rules/regulations; administering an on-site survey assessing the operator’s knowledge of their system; providing tutoring in preparation for the VSS “very small system” operator certification exam; and providing training CD’s for operator certification renewal credits. Thus far, the Circuit Rider’s on-site assistance to the water systems has proven to be a valuable approach to eliminating some of the barriers that small system operators face in obtaining training.

The following summarizes the Circuit Rider on-site assistance:

80 systems received an onsite visit for one or more of the activities stated above.
30 operators received information to study for the exam and/or tutoring
60 operators renewed their certifications
20 on-site assessment surveys completed
15 training CD’s was distributed

### Outreach to Systems

In addition to providing assistance to the water systems through contracts, the Capacity Development Program has been striving to enhance communication between the water systems and the ODWQ in several ways. We have found that systems that are in communication with the Office have a lower rate of non-compliance issues, are more likely to have competent and trained owners and operators, and are more likely to pursue and complete system improvements. For more than four years, the Capacity Development Coordinator has been organizing quarterly regional meetings with public water system

operators and the ODWQ staff. These meetings provide the opportunity to update operators regarding rules and regulations, and answer any questions they may have concerning their own water systems.

The Capacity Development Program has done several mass mailings to all the water systems to inform or update them on regulatory issues, emergency procedures for hurricanes, upcoming training courses being offered, and upcoming annual water association conferences.

Within the past year, the following tools have been utilized to offer supplemental assistance to the water systems:

- A. The ODWQ offered webcasts on the following topics: Water Infrastructure Security Enhancements (WISE) webcast series: a) The Importance of Security at Water and Wastewater Treatment Facilities – A Managerial Perspective, b) Design Considerations and Features to Improve Security at Water and Wastewater Treatment Facilities, c) O & M Changes to Improve Security at Water and Wastewater Treatment Facilities (sponsored by the Water Environment Federation), d) EPA’s New Approach to Significant Non-Complier (SNC) Determinations e) Getting Ready For CUPSS, f) Asset Management 101, and g) Using iWriter: Tools For Creating Your Consumer Confidence Reports and Public Notices (sponsored by the EPA Drinking Water Academy).
- B. The “Operator Basics Training Series” CD course developed by the Montana University Water Center has been distributed to 15 small water systems by the Circuit Rider. It is an interactive CD that covers various topics and tests the operator’s knowledge of the topics at the end of the course.
- C. Several months ago, an EPA intern and two ODWQ staff trained a small water system on the “Check Up For Small Systems” CUPSS software on-site. This software will prove to be a valuable tool for systems to organize their financial and managerial information.

The Capacity Development Program has established a web presence through HEALTH’s web site, [www.health.ri.gov](http://www.health.ri.gov). Suppliers can find information regarding the Capacity Development Program through a link on the web page.

### Community Outreach

The contract with the University of Rhode Island Cooperative Extension (URI CE) has continued to provide municipal capacity training and public outreach. URI CE, in collaboration with the ODWQ, has

developed a menu of educational programs for local officials, water suppliers and residents. The following describes the program:

- a) A series of three workshops link the results of the source water assessments and land use to the importance of water quality are held with local officials. These workshops include: Basic Training For Board, Council and Commission Members, Linking Land Use to Water Quality, Building Drinking Water Protection into Town Ordinances, Reading Maps and Plans, Using GIS Mapping for Conservation Development, and Using Computer Generated Maps in Project Review.
- b) Fact sheets regarding drinking water issues of importance to the water suppliers and the public are distributed via mail, workshops, and their website;
- c) Informative tools for residents regarding water quality concerns and educating the local “decision makers” and partnering with local water systems officials to discuss water quality issues are provided;
- d) Residential/private well water protection workshops are held around the state focusing on types of wells, basic care, well water monitoring and treatment of systems to protect a family’s health.

The following summarizes the URI CE efforts over the past six years:

44 Residential/Private Well workshops were offered.
Over 1,200 individuals have attended the Regional Residential/Private Well workshops.
Post workshop evaluations conducted with 50% of participants.
412 workshop participants mailed a follow-up survey yielding a 34% return rate.
35,000 residents received well water protection brochure via mail
34 Town/Community meetings occurred; 11 workshops offered to town officials
32 Drinking Water fact sheets were previously developed and distributed via mail and workshops and five new fact sheets were developed.

Results from the evaluation and the follow-up survey indicate that participants are taking action to protect their private well as a result of attending the workshop. These actions include: 58% had their well water tested; 65% inspected their wellhead; 18% stopped using fertilizer around their well, while 63% had already avoided doing so; 14% stopped using pesticides around their well, while 79% had already avoided doing so; and 73% shared the information learned at the workshop with others.

## Summary Assessment of the Program

This report has evaluated and described the activities of each component of the Capacity Development Program. This section summarizes the effectiveness of each component of the Program. The Program has made strides in several areas. In some cases, however, it is too early to measure the effectiveness against the baseline.

### Water system ranking

*Current Status:* We have seen major improvements in 5 systems that were discussed previously. These systems have not only made significant improvements but they have been able to meet and exceed the compliance requirements over the past several years. The graph (page 6) illustrates the increase in the number of systems that have improved.

*Observations:* The Program has focused a concerted effort on assisting troubled water systems and continuing the assistance so that the system won't fall prey to repeat non-compliance issues. All 5 systems have remained in compliance.

### Direct technical assistance

*Current Status:* DWSRF - Improvements have been made in assisting systems with infrastructure improvements through the DWSRF. Over the past six years, not only have systems financed projects but also they have financed multiple projects with the anticipation that water quality and compliance issues will decrease with improvements to their system. To date, 18 projects were financed and they range in size from \$300,00 to over \$100,000,000. There are several systems in the process of going through the application process.

*Observations:* The application process can be arduous especially for the small systems, which historically have had trouble completing the process. With the assistance of the Program and the DWSRF informational meetings/seminars, ODWQ anticipates that there will be increased awareness of the Program and more systems will take advantage of this opportunity to receive assistance.

*Current Status:* CCR – For the past six years, approximately 66-68 small water systems received assistance with producing their CCRs. The number of systems receiving violations decreased due to system owner/operator participation in producing an acceptable CCR and distributing it by the deadline.



*Observations:* The Program has helped systems improve in meeting the requirements and has made the systems aware of capacity issues concerning their systems in the follow-up process. As awareness concerning capacity increases, systems are prepared to do their own CCRs and are more likely to comply with the requirements.

*Current Status:* Circuit Rider – The Circuit Rider has been visiting 20-25 targeted systems monthly. He has provided technical guidance and assistance that has resulted in short-term and long-term improvements to the capacity of the systems. The Circuit Rider was able to focus on sanitary survey deficiencies, which has made a difference in the system's overall capacity.

*Observations:* To date, the Circuit Rider has been making strides in resolving short-term compliance issues with systems. Over the past six years, monitoring, water quality, and lead and copper violations have steadily decreased. Of the 481 RI public water systems, the number of systems receiving Safe Drinking Water Act violations decreased from 170 to 150 in the past several years. This can be due to the diligent work of the Circuit Rider in collaboration with the DWQ staff. With consistent on-site follow-up, small systems can make lasting changes and improvements.

#### General Training

*Current Status:* NEWWA courses – On average, NEWWA courses have 12-15 operators in attendance. Most of the operators that attend the courses are from small water systems. To date, half of the operators who attended the preparatory exam course passed the exam.

*Observations:* The operators that have taken the courses have completed a training assessment questionnaire at the end of the course. From the questionnaire, we have found that the NEWWA courses are helpful and necessary to assist operators. Our intent is to continue the courses annually and to collaborate with NEWWA to increase the course participation.

#### Training to improve financial and managerial capacity:

*Current Status:* Over the past several years, several vendors have conducted financial and managerial training. As stated earlier in this report, ASRWWA and the Office of Drinking Water Quality discussed efforts to assist small systems with the financial and managerial aspects of Capacity Development, as well as more technical assistance in long range planning. So far, assistance to potential DWSRF borrowers has come in the form of one-on-one consultations with the system owners to develop management reports,

budget proposals, new rate structures, short term & long-term capital budgets. This project was recently implemented and has assisted several systems in moving toward completing their DWSRF loan application.

Additionally, to further assist systems with financial and managerial capacity, the Resources for Communities And People (RCAP) Solutions contracts focused on assisting small systems with a Capital Improvement Plan (CIP) preparation and Operation and Maintenance Manual (O &M) preparation. To date, the contractor has completed CIP's and O & M manuals for 10 small water systems. Due to staff reduction and changes at RCAP Solutions, there weren't any new systems receiving assistance during this time. However, over the past several months, RCAP has acquired new staff and are able to continue the contract to assist the small systems. Plans are underway to modify the current contract to include: follow-up assessments with the previous 10 small systems; tie-in the Check Up For Small Systems (CUPSS) training; and utilize the (previously developed) CIP and O & M manual to assist the systems in making decisions concerning their financial, managerial, and technical capacity.

*Observations:* We have found that Non-community water systems are still wary of sharing financial information with the state and distrust new programs that are not based on regulations. Since financial and managerial capacity assistance are being offered through technical assistance providers that have gained the trust of the water suppliers, ODWQ has had initial success in assisting small system with the CIP and O & M manuals. A recent follow-up survey showed that at least four of the systems would like to continue with the follow-up services and CUPSS training.

## **Capacity Development Strategy Revision**

During the past six years, the Office of Drinking Water Quality made a revision to the Capacity Development Strategy to include a more comprehensive approach to resolving water quality issues. The OWDQ provides funding to the RI Water Resources Board to complete a supplemental water study that includes gathering public water system data with regard to adequacy of supply, and redundancy of infrastructure and supply. The data will be used as additional criteria for prioritizing the needs of public water systems. In addition, contingency planning will be addressed by utilizing water supply studies. This project is twofold in that it seeks to identify potential water supplies that could be used during a water

shortage and it seeks to encourage the diversification and development of alternate water supplies during a natural disaster or act of terrorism.

## **Looking Ahead**

The following summarizes program improvements:

### *Financial and Managerial Assistance*

ASRWWA and the Office of Drinking Water Quality discussed efforts to assist small systems with the financial and managerial aspects of Capacity Development, as well as more technical assistance in long range planning. So far, assistance to potential DWSRF borrowers has come in the form of one-on-one consultations with the system owners to develop management reports, budget proposals, new rate structures, short term & long-term capital budgets. This project was recently implemented and has assisted several systems in moving toward completing their DWSRF loan application.

To further assist systems with financial and managerial capacity, the Resources for Communities And People (RCAP) Solutions contracts focused on assisting small systems with: a) Capital Improvement Plan (CIP) preparation – assess and evaluate each system, financial statement preparation for loan and/or grants, prioritize short and long term improvements to the system infrastructure, and construction cost estimate and sinking fund requirements, etc. b) Operation and Maintenance Manual (O &M) preparation – provide hands-on assistance in using the template and to prepare a system specific operation and maintenance manual that includes detailed maintenance schedule, emergency operating procedures, and a contingency plan. To date, the contractor has completed CIP's and O & M manuals for 10 small water systems. Due to staff reduction and changes at RCAP Solutions, there weren't any new systems receiving assistance during this time. However, over the past several months, RCAP has acquired new staff and are able to continue the contract to assist the small systems. Plans are underway to modify the current contract to include: follow-up assessments with the previous 10 small systems; tie-in the Check Up For Small Systems (CUPSS) training; and utilize the (previously developed) CIP and O & M manual to assist the systems in making decisions concerning their financial, managerial, and technical capacity.

In the past several months, the ODWQ hired a contract person to assist the Capacity Development Coordinator with the financial and managerial aspects of capacity. He has already proven to be a great

asset to the Program by working with EPA to train a system in CUPSS, by contacting several systems to conduct a financial and managerial assessment, and by collaborating with EPA to conduct CUPSS training for small systems in RI.

#### Technology Basics

A database with all of the community water systems e-mail addresses has been developed and maintained over the last several years. In addition, ODWQ has created web pages for each large community water system on a HEALTH server. Each web page has information about the water system such as, demographic information, public meetings, a posting of all CCRs, and source water assessment information. Plans are underway to update the information on these pages by the end of this year.

#### Water system guidance manual

To help systems maintain and achieve compliance, the Capacity Development Program is creating a small system guidance manual that will be useful tool to the owner/operator. This guidance, with ongoing updates, will contain pertinent information including: the state of Rhode Island Rules and Regulations Pertaining To Public Drinking Water, ODWQ contact list, fact sheets on rule and regulations, and technical, managerial, financial information.

#### Ongoing program evaluation through a self-assessment survey

Several years ago, the Capacity Development Program mailed out a self-assessment survey to all water systems in RI to gather information about the water systems and to assess their needs so that the ODWQ may provide the appropriate assistance. From this survey, most systems responded that they were in need of financial and managerial assistance. The ODWQ has responded to this request and is providing assistance in these areas. Moreover, several systems are making strides in getting the help that they need through hiring management companies and/or securing strong board members.

Plans are underway next year to mail out the self-assessment survey to the community and non-transient non-community water systems and then, to the transient non-community systems.

### **Lessons Learned**

Even though the Capacity Development Program has made some strides in improving the capacity of water systems, we have found that there are still gaps and room for improvement. We have found that on-site assistance is still paramount in assisting small water systems with improvements and helping them

maintain compliance, and that follow-up with these systems is key in assisting them with maintaining and achieving compliance. Secondly, even with the larger water systems, the regional meeting proved to be a valuable tool in communicating the pertinent information effectively and in establishing a working relationship with the water system officials.

## **Conclusion**

This report has summarized the Capacity Development efforts, the efficiency of the program, and the progress towards improving the capacity of Rhode Island's public water systems. Overall, the Capacity Development Program along with the other drinking water programs have helped the water systems in Rhode Island maintain a very good record in providing high-quality safe drinking water.